

Puget Sound Steelhead Recovery Team  
December 17, 2015 Meeting Summary

Decisions and Actions from Meeting

Decision
1. Accepted the October 27 <sup>th</sup> meeting summary as final with edits.
2. Agreed to focus MPG workshops on an update of the life cycle model but also seek input from participants.

Action	Assignment
1. Post Skagit presentation, Snohomish Basin Protection Plan, and updated draft Recovery Plan to the Team's Google Drive.	Claire Chase
2. Draft questions to ask MPG workshop participants; circulate via email in early January.	Joe Anderson
3. Draft a process approach for how to set recovery goals, aiming to share this at the MPG workshops in February 2016. Share the draft with the Team at the January meeting.	Joe Anderson, Neala Kendall, Ken Currens, Dave Price, Jeff Hard, and Elizabeth Babcock
4. Continue work, prepare update for January 26 meeting.	All Workgroups
5. Read the revised draft Recovery Plan, and complete assignments as appropriate.	All
6. Incorporate Topic Tracker notes into the draft Recovery Plan.	Claire Chase, Bob Wheeler, & Elizabeth Babcock

**Welcome, Announcements, & Old Business** – Bob Wheeler, facilitator of the Puget Sound Steelhead Recovery Team (“Team”), welcomed the Team and led introductions (*please see end for a list of participants*). There were no suggested changes to the draft agenda.

*Announcements*

- The Northwest Fisheries Science Center (NWFSC) and National Marine Fisheries Service (NMFS) are working on parts of the five-year status review of the Puget Sound steelhead listing. NWFSC re-drafted the review based on public comments, which will provide the basis for the 5-year status review summary report that will include other listing factors and analysis of habitat. Elizabeth Babcock will keep the Team updated as that summary report is finalized and noticed in the Federal Register.
- NOAA headquarters is doing a recovery plan review with a diverse stakeholder panel. They will look at a broad array of NOAA-approved recovery plans not just for salmonids to determine what works and does not work in recovery plans. The work will be done internally, but Elizabeth will also keep the Team updated as the panel's findings could influence the way the Team writes the Puget Sound Steelhead Recovery Plan. A Team member asked if NOAA has considered doing another external Endangered Species Act review like they did about 15 years ago, which is not happening at this time but Elizabeth will confirm if there is any more information about any similar processes.

- The Puget Sound Ecosystem Monitoring Program is rebuilding the Salmonid Work Group.
- The Team discussed the 60-day notice of intent to sue NMFS on the Steelhead Recovery Plan from five parties (Wild Fish Conservancy, Wild Steelhead Coalition, Wild Salmon Rivers d/b/a The Conservation Angler, Steelhead Committee of the International Federation of Fly Fishers, and Washington Fly Fishing Club). NOAA is currently in the initial stages of responding to the notice. Elizabeth mentioned that she has been pleased with the Team's level of transparency and outreach to stakeholders around the Sound. It is not known how a settlement or lawsuit could affect the Team's work. Elizabeth will remain the point of contact for any questions regarding this topic, and will keep the Team informed of any new information before the next Team meeting.

*October 27 Draft Meeting Summary* – The Team reviewed the draft October 27<sup>th</sup> meeting summary and provided several edits. With these edits, the summary was accepted as final and will be posted on the NOAA website. A Team member also wanted to be sure to capture that the lower dam site on the Elwha River was noted at the field trip of having fish passage concerns. It will be added to the Topic Tracker and a representative from the Washington Department of Fish & Wildlife noted that the biologists working on the Elwha are actively thinking about how to improve fish passage at that site. Additionally, several recent high flow storm events have led to the highest flows since dam removal, so it is possible that those flows have increased or decreased fish passage, which will be ascertained in the spring or summer.

**Skagit Steelhead Recovery Planning** – Steve Hinton with the Skagit River System Cooperative presented to the Team about current work in the Skagit to begin steelhead recovery planning. His presentation slides can be made available, and major points included:

- Fisheries co-managers in the Skagit wanted to get ahead of the curve in steelhead recovery planning, but the work being done is to produce a solid technical foundation, not an all-encompassing draft recovery plan.
- There are several stakeholders involved in this effort, including: Skagit River System Cooperative, Sauk-Suiattle, Swinomish, Upper Skagit Tribe, WDFW, and Seattle City Light. Right now the group is only focused on the Skagit and has not worked with the Samish Demographically Independent Population (DIP), though they are open to working on the Samish DIP in the future given time and resources.
- The overall goal is to develop a draft for technical review by May 2016. They understand that that is ahead of the Team's goal of providing a DPS-level plan, but they also anticipate that their plan will be on the same track as the regional plan.
- The large, diverse group that meets roughly quarterly divided into subgroups focused on various pieces of the plan, such as: model development, harvest, hatchery, hydropower & hydrology, habitat, research & monitoring, and climate change. Steve and Dave Pflug from Seattle City Light are informal co-leaders of the whole effort.
- They are actively incorporating the Open Standards framework into the plan, in order to better align with the regional (DPS-level) plan.
- They anticipate integrating the H's (habitat, harvest, hatchery, and hydro) similar to how they did in their Chinook plan, but they are finding that it is best to integrate all the chapters so that they read as one plan and build on top of one another. They will likely need an outside editor, someone who is familiar with ESA and the recovery planning process.

- The initial model was built as one-stage, adult to adult working with escapement data. Once that was built they worked to identify the co-variates that had the most influence on abundance.
- The purpose of Model 1 (retrospective analysis) is to understand the limits, variability, and factors influencing the Skagit natural steelhead population. Its uses are to inform Skagit steelhead population VSP goal setting and to bound limits of predictions made by Model 2.
- The purpose of Model 2 (multiple steelhead life stage model) is to predict biological outcomes of Skagit steelhead for individual recovery actions (e.g., habitat, harvest, and hatchery actions). Its uses are to develop the suite of actions proposed in the Skagit Plans as a framework for adaptive management.
- They have a lot of age composition data, which is unique compared to the rest of the Puget Sound. This may be one area that is not as transferrable to the rest of the watersheds around the Sound.
- Their research questions are:
  - Is there evidence for density dependent productivity of wild Skagit River steelhead?
  - Is there any relationship between wild Skagit River steelhead productivity and river discharge or marine conditions?
  - Is there any relationship between wild Skagit River steelhead productivity and releases of hatchery steelhead?
- The findings from Model 1 show:
  - There is a density-dependent signal in the Skagit.
  - Peak flow and Pacific Decadal Oscillation (PDO, using year 1 ocean life stage) are important environmental variables related to productivity. One surprising finding is that warm PDO phases were typically beneficial to steelhead productivity, which is usually the opposite for other salmonids. They only looked at annual PDO, not quarterly as has been done in other regions.
  - There is a statistical relationship between the hatchery fish releases and wild steelhead productivity, but they know that there might be other variables influencing the relationship, too.
- The second goal of the modeling group was to set goals with policy-makers. Starting in May 2015 they met with numerous tribal policy makers and hope to revisit those conversations in early 2016.
- The third goal of the modeling group was to develop the second-stage model. With that complete, they will integrate results from the different data tasks, and then start loading the model with various habitat scenarios.
- Phase 2 will convert the single-stage model into a 3-stage density dependent model with two freshwater life stages. This will help identify what to do about the bottlenecks for mortality identified by the first model.
- Phase 3 will conduct a sensitivity analysis and population projections.
- The Harvest chapter will digest the Fishery Resource Management Plan being drafted jointly by the co-managers.
- Because the hatchery program is now closed on the Skagit, the Hatchery chapter will largely include information about the basin's history and the status of the past hatchery program with references to research being conducted on integrated hatchery programs.

- The Habitat chapter will:
  - Minimize new work, relying mostly on existing data.
  - Use a nested classification approach that aligns and fits with NOAA's Major Population Group (MPG) approach. They will nest to the intermediate scale at a minimum, but also to a unit scale where possible.
  - Leverage synergies with the Chinook plan and the Monitoring & Adaptive Management effort.
  - Create a baseline timestamp because it informs the analysis of protection strategies. The goal will be to have three timestamps: one from the late 1990s, one from the late 2000s, and one from 2015.
- The goal for habitat assessment and tools is to feed the model and establish a baseline for status and trends. The intrinsic potential model works really well in the upper watershed, but does not predict well in the lowlands. To improve that data, they used Skagit County data for the lowlands.
- They have learned that the most important things to do for salmonid recovery is to identify isolated habitat and identify strategies to reduce impairment. A lot of the floodplain is impaired due to development or farming, so opening up that floodplain where possible is really meaningful for recovery.
- What they intend to do moving forward includes:
  - Finish habitat assessment work
  - Complete writing assignment for the plan sections
  - Agree upon goal statement
  - Convene workgroups to vet recovery actions
  - Load model with habitat and productivity values
  - Gear climate change analysis to habitat metrics and two-stage model
  - Compile identified gaps and prioritize
  - Research/monitoring/adaptive management summary

The Team appreciated Steve's presentation because it will help inform their decisions as they draft the DPS-level recovery plan. Other discussion points included:

- The next large group meeting of the Skagit planning group will likely be scheduled in January and Team members are welcome to attend. Steve will also try to start quarterly updates to the Recovery Team moving forward.
- Getting more information on residualism and residency will be important for both the Skagit plan and the DPS-level plan.
- Once the draft plan is published for review, it will also be important to vet the draft with stakeholders to increase knowledge of the plan and awareness about potential restoration and protection actions.
- The life cycle model that is being developed for the DPS-level plan is fairly similar to the models that Skagit used, which will help the plans complement each other. Steve noted that because the life cycle model is being created to be more usable for more people in the watersheds, that will help ensure that the plans from each watershed are as consistent as possible.
- The Skagit group has not yet discussed which elements would be only in the regional plan, such as marine survival. However, Steve will take that suggestion back to the group.

**Life Cycle Model and Guidance to Watersheds** – Joe Anderson, one of the main authors of the life cycle model, asked the Team for more input on the life cycle model. Discussion included:

- The key parameter in the freshwater part of the model is capacity, assuming that by protecting and restoring habitat, the habitat capacity will increase. The challenge is to identify the information to know what to do to increase that habitat capacity.
- The Team raised the questions of: Which watersheds have the resources (GIS layers, expertise, etc.) to pursue habitat capacity analysis? How can the Team help watersheds do that sort of analysis?
- Doing the watershed assessment, as outlined by Tim Beechie at previous Team meetings, would be about \$150,000/watershed, though there could be economies of scale by pooling watershed assessments together. A Team member also noted that time is important, because if there is a deadline to collect that information, watersheds should know that sooner than later. Some of the data collection could go quickly, but because a lot of the easy-to-collect data has already been collected it could take longer to collect more data. It was noted that George Pess and Tim Beechie have developed a good list of data they are looking for at the MPG level, so that could inform what the Team asks for at the watershed level.
- The work done by Skagit could be replicated pretty easily in other watersheds, assuming relationships are similar and people share the assumptions Skagit used. No matter if that happens or each watershed uses their own data, it will be important to track the source of all data in the DPS-level plan.
- The life cycle model team has scheduled more workshops, one in each MPG, to similar audiences of the MPG workshops that occurred in April/May 2015 at the outset of developing the model. The Team discussed what to present to the MPG workshops in February 2016.
  - The Team could ask the watersheds how much habitat could be opened up from currently-isolated habitats.
  - The Team agreed to focus the MPG workshops on an update of the life cycle model, but also seek input from participants. Joe Anderson will draft questions by early January and circulate via email for feedback from the Team by mid-January. Then he will send the questions to the workshop participants before the workshops so that they have time to find answers.

**Recovery Goals** – The Team reviewed questions about how to set recovery goals, originally generated from the August meeting. Additionally, Joe Anderson asked the Team to help him think about how to set recovery goals, so that he can share more about that process at the MPG workshops in February.

Discussion included:

- The life cycle model interface is being built so that any user can adjust the inputs based on the specific information for their watershed. However, the Team also discussed setting sideboards for adjusting those inputs so that no one unknowingly uses unrealistic inputs that could negatively skew their results.
- The Team discussed setting recovery goals for two pilot areas, perhaps in one data-rich and one data-poor watershed. They also discussed convening more workshops in individual watersheds to set those local recovery goals, perhaps summer 2016.
- The Team discussed each of the recovery goals questions listed on the agenda:
  - Recovery goals for every population?

- One type of recovery goal doesn't fit all watersheds – create a recovery goal for each DIP. Consider the minimum information needed for setting recovery goal(s) for each DIP. Also consider viability.
  - Capturing spatial structure and diversity on a broad scale will be better than at a local scale.
- What would recovery goals look like?
  - Depends on definition of recovery. How much are we willing or not willing to lose? Remember the task to keep at 95% persistence over 100 years.
  - Consider the difference between hydrologic systems (snow-dominated, rain-dominated, mix).
- What level of detail do we want for the recovery goals?
  - Consider how to address inaccuracies in the intrinsic potential model (especially for lowlands).
  - Manipulate capacity analyses to reflect sensitivity.
- How does the Recovery Team's work on recovery goals dovetail with what co-managers have already identified as important?
  - Everyone "owns" recovery goals.
  - Original (and ongoing) intent was that the co-managers would identify the recovery goals.
- How do we ensure that the recovery goals meet a broad audience's needs?
  - At MPG workshops in February 2016, solicit input on how watersheds want to participate in setting recovery goals and ask when they would have information available on which to base recovery goals.
  - Consider what to do about watersheds that might not have the capacity to participate in setting recovery goals right now.
- Other considerations:
  - Difference in content for technical MPG workshops vs. policy-level discussions.
  - Specify process for setting recovery goals (for sharing at MPG workshops in early February 2016).
  - Capacity for doing the work (coordinating with each watershed) is necessary, and maybe more than originally anticipated.
  - Does intrinsic potential modeling for Nooksack streams include data from Canada? Consider the bull trout model where they used Canadian data.
- Overall, the Team agreed on:
  - Having recovery goal(s) for each DIP;
  - Identifying spatial structure and diversity at a broader scale than DIPs; and
  - Trying to provide technical support at the watershed/local level to help set the recovery goals, maybe in second half of 2016.
- Joe Anderson, Neala Kendall, Ken Currens, Dave Price, Jeff Hard, and Elizabeth Babcock agreed to draft a process approach for how to set recovery goals, aiming to share this at the MPG workshops in February 2016. They will also share the draft process approach with the Team at the January meeting.

**Steelhead Management Geographies** – Tristan Peter-Contesse shared that the Puget Sound Partnership (PSP) is still developing a process to address the few challenging geographies identified by PSP and the Team at the October meeting. PSP plans to set up individual discussions with the Hood Canal and Straits watersheds, hopefully by mid-winter 2016 to report back to the Team after that.

Ned Currence asked PSP to also address a small area between WRIAs 1 and 3, which is technically in WRIA 1 but has historically been dealt with by WRIA 3. PSP agreed to follow up with that watershed, too.

**Workgroup Progress Reports** – Short updates were shared for each workgroup:

*Recovery Goals & Scenarios Workgroup*

- This workgroup is very focused on finalizing the life cycle model right now and getting prepared for the MPG workshops in February. They anticipate having a report to share with the Team before the workshops.
- They look forward to more discussion with the Team on recovery goals.

*Watershed Template and Pressures & Stressors Workgroups*

- These workgroups have mostly been doing their work together. They are focused on building the pressures linkage library, intended to be useful to the watersheds. They hope for a main set of pressures in January or February.
- If the Team decides to re-focus the Plan so that it is only the DPS-level without emphasis on the watershed chapters, the Workgroup may not need to complete the watershed template in the approach they are currently planning to do. More discussion at the Team level in winter/spring 2016 will be helpful for this conversation. They are also considering that the watersheds which really want to focus on their chapter have already started, and so a template may not be as helpful to those or other watersheds.

*Habitat Protection Workgroup*

- Scott Powell and Elizabeth Babcock have looked at the Snohomish Basin Protection Plan that has recently been finalized, and hope to convene the Workgroup soon to review the Snohomish plan and discuss how to do that regionally.

**Chinook Recovery Planning Activities in 2016** – Jeanette Dorner shared upcoming work anticipated for Chinook recovery planning:

- PSP received \$600,000 to move forward Phase 2 of the Chinook Monitoring & Adaptive Management (M&AM) project. This is less than their funding request, but still enough to do good work for Phase 2.
- They plan to do pilots with the Cedar River (WRIA 8) and Skokomish watersheds, in order to do a full update or completion of those Chinook chapters. They also hope to work with other watersheds to update their chapters, but have not yet clearly defined what that support will be.
- They hope to get to quantitative habitat goals; that work will include defining a set of common indicators to measure consistently across the Sound. Then they will give guidance to watersheds for how to determine quantitative goals (or values) for those indicators.
- PSP also plans to work with watersheds on how to address the nearshore part of their chapters.
- The Team discussed when and how to do Chinook and steelhead work – whether it is better to ask watersheds to address both species simultaneously or one at a time. It is likely that they will ask for the work to be done at different times.
- The Team also discussed a potential of having a workgroup dedicated to monitoring and indicators, which they can address later once that part of the Plan is ready to be developed.

**Draft Recovery Plan** – Elizabeth Babcock shared that Barbara Taylor, a contractor to NMFS who had a small number of hours to help with the Steelhead Recovery Plan before November 30<sup>th</sup>, improved and added to the draft Plan. All Team members are encouraged to read the revised draft Plan before the January meeting for a fuller discussion then. The Team also updated the assignments tracker.

**Administrative Updates**

- Elizabeth Babcock will begin a six-month acting assignment in January to be the head of the NMFS Area Office's North Puget Sound Branch Office. This will allow her to keep her duties on the Steelhead Recovery Team but she will have a lot more on her plate through the next six months. However, she may be able to direct some resources from that Branch Office to support the Steelhead Recovery Team.
- The PSP Science Panel is forming a Salmon Science Advisory Group to deal with salmon issues. The Team was unclear on what that Group will look like but it might be a future resource to the Team.
- The next Team meeting on January 26 will be in Seattle at the Triangle Associates offices (811 1<sup>st</sup> Avenue, Suite 255). Parking is available nearby and reimbursements will be available. The light rail stop is three blocks away. Topics for that meeting include:
  - A full run-through of the life cycle model;
  - More discussion on recovery goals; and
  - The draft Recovery Plan.

The meeting was adjourned at 3:00pm.



## Participants:

<b>Participant</b>	<b>Affiliation</b>
Joe Anderson	Washington Department of Fish & Wildlife
Elizabeth Babcock	NOAA's National Marine Fisheries Service
Ed Connor	Seattle City Light
Ned Currence	Nooksack Tribe
Ken Currens	Northwest Indian Fisheries Commission
Jeanette Dorner	Puget Sound Partnership
Jeff Hard	Northwest Fisheries Science Center
Steve Hinton	Skagit River System Cooperative
Neala Kendall	Washington Department of Fish & Wildlife
Susan O'Neil	Long Live the Kings
Scott Powell	Seattle City Light
Tristan Peter-Contesse	Puget Sound Partnership
David Price	Washington Department of Fish & Wildlife
Bob Wheeler	Triangle Associates
Claire Chase	Triangle Associates